Sequence Listing

#4

<110> Southern Illinois University

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<120> SOYBEAN SUDDEN DEATH SYNDROME RESISTANT SOYBEANS, SOYBEAN CYST NEMATODE RESISTANT SOYBEANS AND METHODS OF BREEDING AND IDENTIFYING RESISTANT PLANTS

<130> 1268/2/2

<150> 09/007,119

<151> 1998-01-14

<160> 20

<170> PatentIn version 3.1

<210> 1

<211> 527

<212> DNA

<213> Glycine max

<220>

<221> misc_feature

<222> (1)..(527)

<223> n is a, c, g, or t/u

<400> 1

tgttctagat agttcgcaat tcaatcaaat ttcccaatta taattgaata aaaagattca 60

tgaaatcagg tgatcaagcg aaaaataagc attaagcgta gaagagaagc aataacattt 120

ttttattaaa taataaaaga gtaattacat aaaaatatgt tcgattacat taaaccccaa 180

caaaggatga atttagcttc tcatgaccat ggggaaaatc aaacttgatg aacaagaaga 240

tgaagaagaa tccttaagga taaacactgc ctagctccaa tgtgctctct agtattttat 300

ctttcaaaaa tccccaagaa cccctaattt tcagtaagaa gcccattttc aatcagaagc 360

ccattttcaa tcaagaagcc cattttcaat cagaagccca ttttcaatca gaagcccatt 420

ttcaatcaga agcccatttt caatcagaag cccattttat aattgtattc ccaaaacttg 480

agattcttga acgtaaatta ttagtaaatt gtaatcacct ctgtaaa 527

<210> 2

<211> 815

<212> DNA

<213> Glycine max

<220>

<221> misc_feature

<222> (1)..(815)

<223> n is a, c, g, or t/u

<400> 2

atgattacgc caagctattt aggtgacact actagaatac tcaagctatg catccaacgc 60

gttgggagct ctcccatatg gtcgacctgc aggcggccgc actagtgatt cagaagccca 120

aaggtaacag caataagtaa tcccttgttt ataagatccc agaacttcca gtttatttaa 180

tgaaaatgca ataacatcgg ctagtttcac aagtaatata caaatcggaa catcacattg 240

actacaatat atagtacata aattaacact aagaaacctc cttgatttga tattatgcat 300

ttacctatgt tgttccacaa gaatatactc aaatgacttt gccttgattt aaattatcac 360

gatgtaacac aaacaaagat gatantttgt cgatcaactg ttcagcacca agagagccct 420

ccccacaatc aactcaggtt ttcacttttg gtgcttgaaa atgagtggca catgnaaaag 480

caagagtcnt ctttgacaaa tgtgcctgcc ganagttatc antacttact aacaagataa 540

tgagccaaaa catcatctgg gncatcaacc ttcatgnctt tntcaagttt atacctatna 600

ntnactangt cttatatttn canntggtga ttacanttac nantaagttt agcttnaaga 660

aatncaagtt ttngggactc catgcctngn cnggntttcn natccgtcgg ccagggcggn 720

cnggnncact gntnggnagn cccanttncn cagancacng ncccntttcc attccnggnc 780

cntcnncttc aangacngcc ggngaaancn ngggt 815

<210> 3

<211> 435

<212> DNA

<213> Glycine max

<220>

<221> misc_feature

<222> (1)..(435)

<223> n is a, c, g, or t/u

<400> 3
gcagatgtaa ctgttcccac aatatctaat attctagttc tagatgaaaa tatttttttc 60

ccatagcaag caaagtatgg atttgtcatt tttcagagac gaagaactct caacaaacat 120

gtttatagta acttcattgc aaaactcaac aaatagattt ttggaacctt aatataataa 180

aattcaacag tcttctttaa ttttattctg ctcttacctt ctcataggat catatagaat 240

ttaaccctac aagctctcaa aaaacaatcc attattatgc tccttatcca ataaaacaaa 300

accatagagt gattctcaaa atgaagattg acaaaggcaa aaagttatgc tggntcaata 360

gcttctttat aattntcttc atcttgcacc ntcccngcct taggnggtct ccattgtcaa 420

tccaaaggtn ntcgn 435

<210> 4

<211> 183

<212> DNA

<213> Glycine max

<220>

<221> misc_feature

<222> (1)..(183)

<223> n is a, c, g, or t/u

<400> 4
ggtacccggg gatcctctag agtcgacctg cagggaggcg aatgtnatgt tgancttttgc 60

tcgctcatat ggccttacag ggtttgccga attagtgtga aggtaattcg gtaaatggat 120

aatattgtat tcatttnata tttnatgatg ttacaagtnc aaggnataan ctgatgcctg 180

agt 183

<210> 5

<211> 499

<212> DNA

<213> Glycine max

<220>

<221> misc_feature

<222> (1)..(499)

<223> n is a, c, g, or t/u

<400> 5
caggtagaca aatctgatgg tactgaagtt ggtcatacaa ttaaaaagtt ccctctttta 60

aagcccagag aatatgtgct agcttggaag tngtgggagg ggagtgatga aacattttac 120

tgttttatga aggtaataca ccaattatta tggtttttg tttaataaaa tgtgaataat 180

tgtcaatcgt gattgcatta tctctccttt actctgtctc ttcacctttt ttacccttt 240

atttgagagg aagaatccat gtagtaaaaa atgatgataa aattgttaga aaatatagtg 300

tcatgtaatt agagattcag attataactt agaagacact attattttca tgtaatacta 360

tccacgggta attatcaata ctgacatatt ttcactcaaa atattctggt tttctcatta 420

tatacattta aataggagct attanccatt gcaagcttgg gtttggaggc cttccgatgc 480

cttgttggga ttgngacca 499

<210> 6

<211> 500

<212> DNA

<213> Glycine max

<220>

<221> misc_feature

<222> (1)..(500)

<223> n is a, c, g, or t/u

<400> 6
nagncaggga acccacacat acagacaatt aaaaccgttg gatgaaaatc atactactca 60

taaattgaaa atatatacgt aagancttca tctaacagtg ctagtcgaag aatgcgtaaa 120

tgcaggnnat ccatttccat actaaaatgg acaaaactta tatttttttt ttagcggcaa 180

acgttaatta ttaatttttt ttagtacaag ggatcaaacc angacctttc ccttctttcc 240

atctttcttg accacccaac caaccttata tctccacaaa acttattata tgttgttctt 300

cggggactat cagaattgga gtttaacctc gggcantcaa tctacataat ccttgatttn 360

atttngtgaa gttctaaagc cacaggcatt atttatntta ttntttctgn agtaacccnc 420

catatgttgg tnnataaggg tangnatnaa aatncnttgg ntggtnncna tttgcncttn 480

cnaggccggg gatggntttt 500

<210> 7

<211> 189

<212> DNA

<213> Glycine max

<220>

<221> misc_feature

<222> (1)..(189)

<223> n is a, c, g, or t/u

<400> 7
nnacaanana ncaggggatc ctctagagtc gacctgcagt gatactagaa ctnaatgaac 60

agggagagag agagagagag aganantnaa nataacgatg aagctctccc tattgacggt 120

gttcattgta gcaatagcat cgttatctct tattattgct ggttcatcat natctcaatt 180

ccagtggca 189

<210> 8

<211> 724

<212> DNA

<213> Glycine max

<220>

<221> misc_feature

<222> (1)..(724)

<223> n is a, c, g, or t

<400> 8
aatttttat ataagttgca aaatttaggg acttatttat tattaaatta tttgtaggga 60

ctaatttatc atatttttg tatattcagg aattaaattt aatttttcat ccttcaatac 120

taacttatta acgtttcaca ttttcaaaga cgagtctagc tatttataat ttttttcct 180

aaaatatatt ttttgtcctc ataaatatga aaatatttaa aattcgttcc taatttttt 240

ttcaaagcat ctttccttct cacaaaattg aaatgtatca ttttttttg ttcaaaagtt 300

taaataaatt tgaacctaat atgacatttt atatcggtta tacatataac tgatataaac 360

atcaagtttt ttatatcaat gatacctata actgatatca aatgtgacaa ttatatatat 420

aattaatgta aaaaagtcat aaatataatt tattttgagt caaaaaataa tatattttaa 480

ttattttgaa gatgaaaaag gataaattta aaacatttgt gtgangatga aaaactagat 540

gtttttttc ctggtttaaa tgcaaaacca atgctatttt atttaaattt taccttttt 600

ttataattac nccaccaaaa aaccgtttgg tgttacaaat ttganttaaa ttctnttgtt 660

tattaaaaag ananattaat tnggaanggt ctttttnaaa acnctncngt cnantaacna 720

atct 724

<210> 9

<211> 801

<212> DNA

<213> Glycine max

<220>

<221> misc_feature

<222> (1)..(801)

<223> n is a, c, g, or t

<400> 9

acgccagtga ntgtaatacg actcctatag ggcgaattgg ccaagtcggc cgagctcgaa 60

ttcgtcgacc tcgagggatc acgctaatga tatattatta atcaactgct tcaatagagt 120

gcacacaccc tatctttcat aaaattacta cacttttaa tttttgtaat aaaaaaccta 180

gaaaaactca ttatgaaaca gatgatgtac ttttaacact ctgtcggcct ctctctctct 240

attatatatt gatttaaatt tattgagaat tatatttttg ttgggtctca tttattatat 300

tttattaatt ggatccgggc cctctagatg cggccgcatg cataagcttg agtattctat 360

agtgtcacct aaatagcttg gcgtaatcat ggtcatagct gtttcctgtg tgaaattgtt 420

atccgctcac aattccacac aacatacgag ccggaagcat aaagtgtnaa gcctggggtn 480

cctaatgagt gagctaactc acattaattg ccttgcgctc actgcccgct ttccagtcng 540

gaaacctgtc ctgccagctg cattaatgaa tcngccaacc cncggggana agcngtttgc 600

ntatgggcgc tcttnccgct tcctcgctca ntgactcgct gcgctcngtc nttcngntgc 660

cgcgaacggt atcancncac tcnaangnng taaatacggt tatccaccna accnnggga 720

naacccngga aaaaacatgt nanccaaaag gccnccaaaa ggccangaaa cnttnaaaag 780

gcccnnttgc ttgnctttnt n 801

<210> 10

<211> 809

<212> DNA

<213> Glycine max

<220>

<221> misc_feature

<222> (1)..(809)

<223> n is a, c, g, or t

<400> 10
nnnnnnttgt aaacgacgca gtgaatgtat acgaccacta tagggcaatg gccaagtcgg 60

ccgagctcga attcgtcgac ctcgagggat ctttttatgt tggtagctac tgtaatatca 120

tcttgtactt ttaactttta agtcatactc cctttggact catatataag caaaagagtg 180

gtcttgtatg tcggacttaa atataagcaa atctaactaa ttttgtccta tttaatactt 240

tcattcctaa aacacccttc atttaattct aattctattt ccaataactc ttttttattc 300

atgataacaa gttccaatga aggacatttt agaaataacc ttatttttta tttgagatta 360

gtaaaattaa atgatgtgaa ctaactttct taattaatgt gaaattagtt atttttttctt 420

atatacgagt ccaaagggag taccaaattt cacaaatgta ctaaaatgta ttatatgctt 480

ctttttaatt catctttgct gcatanctac ttagctactg tgctctgatc cgggccctct 540

agatgcggcc gcatgcataa gcttgagtat ctatagtgtc cctaaatagc ttggcgtatc 600

atggtcatag ctgtttccng tgtgaaattg ttatccgctc acaattccac acaacatacg 660

anccggaagc ataaaagtgt taagccnggg gtgcctaatg agtgagctaa ctcacattaa 720

ttgcgttgcg ctcactgccc gcttccnatt cgggaaactg tcctgncanc tgcattaatg 780

aatcnggcca acccncnggg aaaaggcgg 809

<210> 11

<211> 810

<212> DNA

<213> Glycine max

<220>

<221> misc_feature

<222> (1)..(810)

<223> n is a, c, g, or t/u

<400> 11
acngccagtg aattgtaata cgactcctat agggcgaatt ggccaagtcg gccgagctcg 60

aattcgtcga cctcgaggga tctataatat ttctgacagc tacctttta tttagcttgc 120

agaggggctg attttggaga aaacatcatc catggtataa agtccgttta gattccagct 180

attgttcaca ttcatccctt acatatgaga atatccctat aagctgaaac taacttttac 240

aaacaaacat gcaccgaacc attaaagttt gacttaatat ccggggtata atgaccttaa 300

ttcagaaatt cacataaata actaaaagta agttgtattt tatttatgtc tggatttact 360

gcacaaacta aacaaaagtt tgtggattta gacataaaaa ataccaatgc tgtgtgaaaa 420

taagaaatgg tggtcatata gacaagtttc ttttctgttt tctttaaatt gcagtcnaag 480

ccatcangag gttcatgtaa ttaaccaaac tagacgttga cttttggttt tatccttttg 540

tagaatagca agcaagtcat tataaatctg gccattggga cagcttagtt taactcccgc 600

cgcaaatttg ttaaaatatt naataataat atcacctaaa atcatatttg tcanttcatt 660

ttgttttang ttatatcaat tattattttt taccttacnt cctttataat ntcaatgatg 720

ggacccaaaa aattatcaaa tacnttnaag cnttatttat tattaattaa nccttttaatt 780

ataattaaaa attcnattta attttttaan 810

<210> 12

<211> 777

<212> DNA

<213> Glycine max

<220>

<221> misc_feature

<222> (1)..(777)

<223> n is a, c, g, or t/u

<400> 12

anangattcg ncagctattt aggtgacata tagaaatact caagcttatg catgcggccg 60

catctagagg gcccggatct ttcggttgaa gcaaaattga agtcttttgc tcatttttat 120

caaattcttt aatgaaaagt taattacata aaatatttta gtagaagcaa ttttacacag 180

ttattattta aaaaaattac acagttattc aataacaaat tacaatatat tataaggtta 240

taataaatat tttaaaattc atataaaaga tgacttatta ataagttgat aatgtaaatt 300

ttttacacta ttaaactcat tttacgtaat cttagcgaca acatactatt tttttcatga 360

aatttacaaa aagctttcaa aaataaaatt attagttgta cccccaaaat ataaaattat 420

tagctatgtt aaaaatttgt gaatttcata aaagaaaaaa atattacagt attatatatt 480

aaaattaaat ctcacaataa aaacacgtaa agttatcgtt ttgaattatt agttaaagtc 540

cttcgtctcg tatttttctc aactctaccg acagcataaa caggttgtct ccttcntaat 600

aacaatcgtg gctgggaaca aaaatcgttt ttttagaaga atcngaaatc gtattgacgg 660

tgcgttttaa aaagactatc caataatctt cttttaataa cnctgaattt cnccaattct 720

tncncaacgg ttttttggtg cgttntttta aaaaaagttn aatttaatta aaatncn 777

<210> 13

<211> 775

<212> DNA

<213> Glycine max

<220>

<221> misc_feature

<222> (1)..(775)

<223> n is a, c, g, or t/u

<400> 13

atncccnagc tattaggtga cactatagaa tactcaagct tatgcatgcg gccgcatcta 60

gagggcccgg atccaattaa taaaatataa taaatgagac caacnaaaat atattctcna 120

taaatttnaa tccatatttt antaaaaaaa aaaaggccna caaattntta aaattcctnc 180

nncnntttca tantnatttt tcctaggttt tttattncaa aanttaaaaa ttntattant 240

tttatnaaaa atagggtntn tgcacnctat tgaaccantn nattaataat atatctttan 300

cntnatccct caaggtcaac aaanttcana ncncggccna cttggccaat tcnccctata 360

gtgantcntn ttacaactca ctggccgtcg ttttacaacc tcgtgactgg gaaanccctg 420

gcgttcccca anttaatcnc cttgcaacat ntccccttтc gccngctggt gttnataccn 480

aaaaggcccg cnccgatcgc ccttcccnac ttttgcgccc cctnaatggc naatggacgc 540

ccctgttncg ngcncattan ncgcggcggg tgtggtggtt acccccacnt gaccctacac 600

ttgccagccc cctaaccccn ccccttтcgc tttctcccct ccttttctcg ccncttcgcc 660

ggnttcccnt caagcnctaa atcggggctc cctttagggt tccnaattaa ttgctttacg 720

gccctccacc ccaaaaactt gataagggtg atggtcncnt tctggggcnn ccccn 775

<210> 14

<211> 796

<212> DNA

<213> Glycine max

<220>

<221> misc_feature

<222> (1)..(796)

<223> n is a, c, g, or t/u

<400> 14
acntgattca ccaagctatn taggtgacta tagaatactc aagcttatgc atgcggccgc 60

atctagaggg cccggatcag agcacagtag ctaagtagct atgcagcaaa gatgaattaa 120

aaagaagcat ataatacatt ttagtacatt tgtgaaattt ggtactccct ttggactcgt 180

atataagaaa aaataactaa tttcacatta attaagaaag ttagttcaca tcatttaatt 240

ttactaatct caaataaaaa ataaggttat ttctaaaatg tccttcattg gaacttgtta 300

tcatgaataa aaaagagtta ttggaaatag aattagaatt aaatgaaggg tgttttagga 360

atgaaagtat taaataggac aaaattagtt agatttgctt atatttaagt ccgacataca 420

agaccactct tttgcttata tatgagtcca aagggagtat gacttaaaag ttnaaagtnc 480

aagatgatat tacagtagct accaacataa aaagatccct cgaggtcgac gaattcgagc 540

tcggccgact tggccaattc ccctatagtg agtcgtatta caattcactg gccgtcgttt 600

tacaacgtcn tgactgggaa aacctggcgt tccccactta tcgccttgca gcacatcccc 660

tttcgccngc tggcgtnnta ccaaaaaggc cgcaccgatc gcccttcccn acagttgccc 720

cancctgaat ggcgaaatgg acccccctgt taccggccca tttaaacccc gnngggtgtt 780

gtggttnccc cncccn 796

<210> 15

<211> 782

<212> DNA

<213> Glycine max

<220>

<221> misc_feature

<222> (1)..(782)

<223> n is a, c, g, or t/u

<400> 15
attacgccaa gctattaggt gacactatag aaatactcaa gcttatgcat gcggccgcat 60

ctagagggcc cggatctttt attaaaaatt taattgagtc tcttaattat tgaaaagttt 120

aattaaatca tcaattatta aaaaaaatca accatatcct ttattgttta aaacattata 180

attatgctct ttcaaccaac tctgttagtt taattgatag aagttttgta aatagatatt 240

tttacataat ataaataatc tttttacata tattgcagcc aatgtaaaat attatctttt 300

tacattcatt gcttttgatg taaaaaatta ttgttttaca tatgttgtat tgacaataaa 360

tataaaaata tttatttttg tcaattagat taatgaactg atgatgaaaa agatataatt 420

ataatatttt taataattag agaatttgat tgaacttttt aataattaaa aaattaaatg 480

aatttttaat tataattaaa gggattaatt atatatataa gctttaatgt atttataatt 540

tttggtgtcc ncattaatat tataaaagga tgtaagtaaa aaataataat taatattaca 600

taaacaaaat aaaatgacaa tattattagg tgatattatt attaatattt taaacaaatt 660

ncngcggagt taactaaagc tgtccaatgg ncagattata atgactgcct gcnattctnc 720

aaaaggataa aacaaaagtc cacgtctagt ttgggtaaat acatgaacct ccngaatggc 780

tt 782

<210> 16

<211> 801

<212> DNA

<213> Glycine max

<220>

<221> misc_feature

<222> (1)..(801)

<223> n is a, c, g, or t/u

<400> 16

acatgattac acaagctatt taggtgacat atagaatact caagcttatg catgcggccg 60

catctagagg gcccggatcg cccttcccaa cagttgcgca gcctgaatgg cgaatggacg 120

cgccctgtag cggcgcatta agcgcggcgg gtgtggtggt tacgcgcagc gtgaccgcta 180

cacttgccag cgccctagcg cccgctcctt tcgctttctt cccttccttt ctcgccacgt 240

tcgccggctt tccccgtcaa gctctaaatc gggggctccc tttagggttc cgatttagtg 300

ctttacggca cctcgacccc aaaaaacttg attagggtga tggttcacgt antgggccat 360

cgccctgata gacngttttt cgcccttga cnttggagtc cacgttcttt aatagtggac 420

tcttgttcca aactggaaca acactcaacc ctatctcggt ctattctttt gatttataag 480

ggattttgcc gatttcggcc tattggttaa aaaatgagct gatttaacaa aaatttnacg 540

cgaattttaa caaaaatatt aacgcttacn atttcctgat ncggtatttt ctccttacnc 600

atctgtnccg tatttccacc gcatatggtg cactctcaat acaatctgct ctgatccnca 660

taatttaanc cancccgaa acccgcccaa caccccttaa aacncccttа acgggcttgt 720

ntgctcccgg catccgctta acaaanaaac ttttaaacgt ntcccggaac ngcatntttt 780

naaagttttc acccncctcc c 801

<210> 17

<211> 798

<212> DNA

<213> Glycine max

<220>

<221> misc_feature

<222> (1)..(798)

<223> n is a, c, g, or t/u

<400> 17

acatgattac gccaagctat taggtgacac tatanaatac tcaagcttat gcatgcggcc 60

gcatctagag ggcccggatc gcccttccca acagttgcgc agcctgaatg gcgaatggac 120

gcgccctgta gcggcgcatt aagcgcggcg ggtgtggtgg ttacgcncan cgtgaccgct 180

acacttgcca gcgccctagc gcccgctcct ttcgctttct tcccttcctt tctcgccacg 240

ttcgccggct ttccccgtca agctctaaat cgggggctcc ctttagggtt ccgatttagt 300

gctttacggc acctcnaccc cnaaaaactt gattagggtg atggttcacg tattgggcca 360

tcnccctgat agacagtttt tcgcccnttg acgttggagt ccacgttctt taatattgga 420

ccttgttcca aactggaaca acactcaacc ctatctcggt ctattctttt gatttataag 480

ggattttgcc natttcggcc natnggttaa aaaatgagct natttaacna aaatttaacg 540

cgaattttaa caaaatattn aancttacaa tttcctnatg cgggtatttt ctccttacnc 600

atctgtgcgg tattttacaa ccgcatatgg tgcctctcaa ttacnanntg ctctgaatgc 660

cgcatatttt aaaccaacnc ngaaancccn tccaannacc cncttaancg ccccgaacgg 720

gttgntctgc cccngcatcc cttannaaac aacttttaac cttctcctgg aacttcnntt 780

tttnaaaggt ttccnccn 798

<210> 18

<211> 796

<212> DNA

<213> Glycine max

<220>

<221> misc_feature

<222> (1)..(796)

<223> n is a, c, g, or t/u

<400> 18
acggnttntg aatngttatt taggtgacac tatagaaata ctcaagctta tgcatgcggc 60

cgcatctaga gggcccggat ccaccccgtc ttccactgtt cgttactacg cgagcatcnc 120

ggccctccac caccccgaca agatacttgg ccattggaat tcataaccca tcagcctgtc 180

ccacgtccct tgtgtattct ggactctaaa ctcgacctct catcatctcc gccaaacaaa 240

ctcgtcctcg tacagtggac gggccaaccc cctgaggata ctacctggga gccntggtca 300

gaaatncctn acctttacca cctcnaggac aagtggtcct cncgggcgac ngtattgatn 360

acngttaccc ggaagatacc cagattgagc ccccacttac taagacnaag cccaacgttn 420

cccctcnaga cctgcttctt gaatgactac nanactgact cnangaagaa gctccaacca 480

ttngttnccn aagttattag ggtngttacc caattagttt agaacgttnt tccgttgaaa 540

aggctcatgt tacccccctc ncnntttttt aatncttgaa tanatnatta agaaggcctg 600

ccnnaggtta cnttactccc tccccnctct ctanatttcc tntangaagc tgccttcccc 660

cnaaattagg ggccattctc ttcctttccc gtcttttcac tcccctctgc tcttatcnng 720

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<213> Glycine max

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<223> n is a, c, g, or t/u

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tgttagattt gagcccanct cccttctcaa tgatacatnc aggatgaacn ntttgacatn 420

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ganaattatt cctccccagt tcangtngag tctcantccn naaatatagt ccctttgtcc 420

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